UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R042XA057NM

Site Name: Bottomland

Precipitation or Climate Zone: 8-10 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs along intermittent streams and on flood plains and other landscapes periodically inundated and deep wetted. Slopes range from 0 to 3 percent. Elevations range from 4,200 to 5,500 feet above sea level.

Land Form:

1. Flood plain
2. Braided stream
3.

Aspect:

1. Not significant
2.
3.

	Minimum	Maximum
Elevation (feet)	4,200	5,500
Slope (percent)	0	3
Water Table Depth (inches)	27	>72

Flooding:	Minimum	Maximum
Frequency	Rare	Occasional
Duration	Very brief	Long

Ponding:	Minimum	Maximum
Depth (inches)	N/A	
Frequency	N/A	
Duration	N/A	

Runoff Class:

N/A

CLIMATIC FEATURES

Narrative:

This site has an arid climate with distinct seasonal temperature variations and large annual and diurnal temperature changes characteristic of a continental climate.

Precipitation averages 8 to 10 inches annually. Deviations of 4 inches or more from the average are quite common. Fifty percent of the moisture is received from July to November, which is the dominant growing season of native plants. Summer moisture is characterized by high intensity, short duration rainstorms. Winter precipitation averages less than one-half inch per month, usually in the form of rain. There are occasional snowstorms of short duration.

Temperatures vary from a mean monthly average of 77F in July to 34F in January, with the maximum being 104F and the minimum 10F below zero. The average last killing frost in the spring is April 15 and the average first killing frost in the fall is October 28. Frost-free season is an average of 185 days. Temperatures are conducive for native grass and forbs growth from March through November.

Spring winds of 15 to 40 miles per hour are common from February to June. These winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface. This results in structural damage to native plants, especially young seedlings.

The deep wetting this site receives influences soil temperature and effective soil moisture so tha it is conducive to early spring greenup and high production.

	Minimum	Maximum
Frost-free period (days):	140	165
Freeze-free period (days):	190	213
Mean annual precipitation (inches):	8.00	10.00

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.31	0.44	34.1	36.2
February	0.31	0.46	39.3	42.0
March	0.25	0.54	46.3	48.8
April	0.33	0.52	53.3	56.5
May	0.34	0.50	62.5	64.5
June	0.46	0.70	70.6	74.3
July	1.18	2.35	75.3	78.5
August	1.64	2.47	73.0	75.9
September	1.00	1.56	66.5	68.6
October	0.89	1.25	55.5	57.4
November	0.36	0.54	43.7	45.4
December	0.44	0.57	35.1	37.2

Climate Stations:

Station ID	NM0915	Location	Bernardo	Period From:	1962	To:	1990
Station ID	NM0983	Location	Bingham	Period From:	1961	To:	1990
Station ID	NM0234	Location	Albuquerque	Period From:	1961	To:	1990
Station ID	NM5150	Location	Los Lunas	Period From:	1961	To:	1990

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:
The soils are deep and moderately well drained to well drained. Surface textures range from sandy clay loams to clays. Subsoils are generally clay loams, silty clay loams, and clays. Permeability is slow, runoff is low to medium, and water holding capacity is high.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. sandy clay loams to
2. clays
3.

Surface Texture Modifier:

1. SCL
2. C
3.

Subsurface Texture Group: L, S, LS, LFS, GR-S, VFSL, SIL, SR S,
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A
Subsurface Fragments <=3" (%Volume): 2 – 83%
Subsurface Fragments >=3" (%Volume): 2 – 10%

	Minimum	Maximum
Drainage Class:	Poorly	Excessively
Permeability Class:	Impermeable	Rapid
Depth (inches):	0	>72
Electrical Conductivity (mmhos/cm):	0.00	16.00
Sodium Absorption Ratio:	0.00	30.00
Soil Reaction (1:1 Water):	6.6	9.6
Soil Reaction (0.1M CaCl2):	N/A	
Available Water Capacity (inches):	2	7
Calcium Carbonate Equivalent (percent):	N/A	

PLANT COMMUNITIES

Ecological Dynamics of the Site:
Future Development.

Plant Communities and Transitional Pathways (diagram)
Future Development.

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:
The aspect is that of a mid to tall grassland site with scattered shrubs. It may often appear as a monoculture site of giant sacaton and scattered fourwing saltbush. Forbs are a minor component on this site. Trees may be scattered along the main stream channel.

Total annual herbage production (Air-dry):
Average of favorable years – 4,000 pounds per acre
Average of unfavorable years – 800 pounds per acre

Canopy Cover	
Trees	5
Shrubs and half-shrubs	5

Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	50
Bare ground	25
Surface cobble and stone	0
Litter (percent)	25
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

	Annual Production (lbs/ac)		
Plant Type	Low	RV	High
Grass/Grasslike	704	2,112	3,520
Forb	24	72	120
Tree/Shrub/Vine	72	216	360
Lichen			
Moss			
Microbiotic Crusts			
Totals	800	2,400	4,000

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SPWR2	Giant sacaton	1080-1320	1080-1320
2	SPAI	Alkali sacaton	360-480	360-480
3	PAOB	Vine mesquite	72-168	72-168
4	PLJA	Galleta	48-120	48-120
	PLMU3	Tobosa		
5	BOGR2	Blue grama	48-120	48-120
6	PASM	Western wheatgrass	0-168	0-168
7	SCBR2	Burrograss	72-168	72-168
	MURI	Mat muhly		
	2GRM	Other Grasses		

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	ATCA2	Fourwing saltbush	120-288	120-288
	ATCO	Shadescale		
9	ERNAN5	Rubber rabbitbrush	0-120	0-120
	FAPA	Apache plume		
	2SHRUB	Other Shrubs		

Plant Type – Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	ASCLEP	Milkweed	48-120	48-120
	SOEL	Silverleaf nightshade		
	SAKA	Russian thistle		
	CIRSI	Thistle spp.		
	2FORB	Other Forbs		

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site would include: Cane bluestem, Sideoats grama, Feather fingergrass

Other woody plants include: Skunkbush sumac, Littleleaf sumac, Saltcedar, Screwbean mesquite

Other forbs include: Kochia, Locoweed, Globemallow

Plant Growth Curves
Growth Curve ID NM - 2261
Growth Curve Name: HCPC
Growth Curve Description: SD-1 Bottomland HCPC Warm Season Plant Community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		3	5	10	10	25	30	12	5		

Plant Growth Curves
Growth Curve ID NM - 2262
Growth Curve Name: HCPC
Growth Curve Description: SD-1 Bottomland HCPC Cool Season Plant Community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		15	20	20	2	5	10	15	13		

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

This ecological site provides habitats which support a resident animal commuity that is characterized by racoon, striped skunk, tawny bellied cottonrat, western jumping mouse, roadrunner, fence lizard, and Sonora gopher snake.

When woody vegetation is present, these sites are important nesting areas for mourning doves. These sites provide essential cover during infrequent snowstorms.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Mimbres silt loam	C

Recreational Uses:

This site is not usually considered as having recreational value. However, this site is suited to specific interests such as hunting and nature observation.

Wood Products:

This site produces no significant wood products in its potential plant community.

Other Products:

Approximately 95 percent of the vegetation production in this site is suitable as forage for domestic livestock and wildlife. Grazing distribution to adjacent sites may be a problem since the grazing animals are attracted to this site during early green up. Heavy grazing pressure during early greenup, as well as trampling damage on wet soils may lead to deterioration of the potential plant community. Such deterioration is indicated by a decrease in production, ground cover, and such plant species as vine mesquite, blue grama, western wheatgrass, and fourwing saltbush. The large proportion of giant sacaton and alkali sacaton eventually becomes replaced by galleta, burrograss, mat muhly, and rabbitbrush spp. A planned grazing system with periodic deferment is best to maintain the desirable balance between plant species and to maintain high productivity.

Removal of the past year's growth, either by grazing or by prescribed burning, will remove old plant growth and lead to increased production and palatability of the coarser grasses found on this site.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	0.8 – 1.1
75 – 51	1.0 – 1.7
50 – 26	1.6 – 3.4
25 – 0	3.4 – 3.4+

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Vine mesquite	Panicum obtusum	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue grama	Bouteloua gracilis	EP	P	P	P	P	P	P	P	P	P	P	P	P
Western wheatgrass	Pascopyrum smithii	EP	P	P	P	P	P	P	P	P	P	P	P	P
Cane bluestem	Bothriochloa brabinodis	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sideoats grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing saltbush	Atriplex canescens	EP	P	P	P	P	P	P	P	P	P	P	P	P
Shadescale	Atriplex confertifolia	EP	P	P	P	P	P	P	P	P	P	P	P	P
Russian thistle	Salsola kali	EP	P	P	P	P	P	P	P	P	P	P	P	P
Kochia	Kochia scoparia	EP	P	P	P	P	P	P	P	P	P	P	P	P
Giant sacaton	Sporobolus wrightii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Alkali sacaton	Sporobolus airoides	EP	D	D	D	D	D	D	D	D	D	D	D	D
Galleta	Pleuraphis jamesii	EP	D	D	D	D	D	D	D	D	D	D	D	D
Tobosa	Pleuraphis mutica	EP	D	D	D	D	D	D	D	D	D	D	D	D
Feather fingergrass	Chloris virgata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Burrograss	Scleropogon brevifolius	EP	U	U	U	U	U	U	U	U	U	U	U	U
Mat muhly	Muhlenbergia richardsonis	EP	U	U	U	U	U	U	U	U	U	U	U	U
Rubber rabbitbrush	Ericameria nauseosa	EP	U	U	U	U	U	U	U	U	U	U	U	U
Apache plume	Fallugia paradoxa	EP	U	U	U	U	U	U	U	U	U	U	U	U
Milkweed	Asclepias spp.	EP	U	U	U	U	U	U	U	U	U	U	U	U
Silverleaf nightshade	Solanum elaeagnifolium	EP	U	U	U	U	U	U	U	U	U	U	U	U
Sumac	Rhus	EP	U	U	U	U	U	U	U	U	U	U	U	U
Locoweed	Oxytropis lambertii	EP	U	U	U	U	U	U	U	U	U	U	U	U
Thistle spp.	Cirsium spp.	EP	U	U	U	U	U	U	U	U	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

Inventory Data References (narrative):

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

State Correlation:
This site has been correlated with the following sites: _____

Type Locality:
State: _____
County: _____
Latitude: _____
Longitude: _____
Township: _____
Range: _____
Section: _____
Is the type locality sensitive? Yes ☐ No ☐
General Legal Description: _____

Relationship to Other Established Classifications:

Other References:
Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Valencia, Socorro and Bernalillo.

Characteristic Soils Are:	
Mimbre, flooded phase (mapped in Socorro County)	

Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/12/1979	Don Sylvester	07/12/1979

Site Description Revision:

Author	Date	Approval	Date
Santiago Misquez	04/12/02	George Chavez	02/14/03